

What is claimed is:

1. A wireless communication system, comprising:

a queue status detection unit for detecting an amount of unit data used for communicating among a plurality of external devices, and determining a class parameter T of said one of the plurality of external devices;

a counter for counting a number of giving-away times of said one of the plurality of external devices based on the giving-away of communication opportunities to communicate with the plurality of external devices, and determining a delay parameter D of said one of the plurality of external devices;

a communication priority decision unit for calculating priority values P of said one of the plurality of external devices by using the class parameter and the delay parameter, and determining which of the plurality of external devices has priority, based on the priority values; and

a communication initiation unit for initiating data communications with the determined external device having the priority.

2. The wireless communication system as claimed in claim 1, wherein the communication priority decision unit calculates the priority values based on a Formula, as follows:

$$P = \alpha T + (1 - \alpha)D$$

where  $\alpha$  denotes a weighted value, T denotes a class parameter, and D denotes a delay parameter.

3. The wireless communication system as claimed in claim 1, further comprising a comparison unit for comparing a maximum priority value with a priority value of a first external device and the priority values of the plurality of external devices, wherein, when the priority value of the first external device is smaller than the maximum priority value, the communication priority decision unit determines that a second external device has the maximum priority value and an opportunity for transmission, and the communication initiation unit initiates communication with the second external device.

4. The wireless communication system as claimed in claim 3, wherein, when initiating communications with the second external device, the queue status detection unit detects an amount of unit data being sent to/from the second external device, and changes a class parameter of the second external device, and the counter decreases the number of giving-away times of the second external device and increases the number of giving-away times of the first external device so as to change delay parameters of the first and second external devices.

5. The wireless communication system as claimed in claim 3, wherein the communication priority decision unit updates the priority values of the first and second external devices by using the changed class parameter and delay parameters.

6. The wireless communication system as claimed in claim 3, wherein, if the priority value of the first external device equals the maximum priority value, the communication priority decision unit determines that the first external device has an opportunity for transmission, and the communication initiation unit initiates communications with the first external device.

7. The wireless communication system as claimed in claim 6, wherein, when initiating communications with the first external device, the queue status detection unit detects an amount of unit data being sent to/from the first external device, and changes a class parameter of the first external device.

8. The wireless communication system as claimed in claim 6, wherein the communication priority decision unit updates the priority value of the first external device by using a changed class parameter.

9. A wireless communication method, comprising steps of:  
detecting an amount of unit data used for communicating among a plurality of external devices, and determining a class parameter of one of the plurality of external devices;

counting the number of giving-away times of said one of the plurality of external devices based on the giving-away of communication opportunities to communicate with at least one other of said plurality of external devices,

and determining a delay parameter of said one of the plurality of external devices;

calculating priority values  $P$  of said one of the plurality of external devices by using the class parameter and the delay parameter, and determining whether said one of the plurality of external devices has priority over said at least one other of said plurality of external devices, based on the priority values; and

initiating data communications with a determined external device that has the higher priority.

10. The wireless communication method as claimed in claim 9, wherein the external device priority decision step calculates the priority values based on Formula as follows:

$$P = \alpha T + (1 - \alpha)D$$

where  $\alpha$  denotes a weighted value,  $T$  denotes a class parameter, and  $D$  denotes a delay parameter.

11. The wireless communication method as claimed in claim 9, further comprising comparing a maximum priority value with a priority value of a first external device and the priority values of said at least one other of said plurality of external devices, and when the priority value of the first external device is smaller than the maximum priority value, a second external device is determined to have the maximum priority value and an opportunity

for transmission, and communication with the second external device is initiated.

12. The wireless communication method as claimed in claim 11, wherein, when initiating communications with the second external device, the amount of data being transmitted to/from the second external device is detected, the class parameter of the second external device is changed, and the number of giving-away times of the second external device decreases and the number of giving-away times of the first external device increases so as to change delay parameters of the first and second external devices.

13. The wireless communication method as claimed in claim 11, wherein, when it is determined that the second external device has the maximum priority, the priority values of the first and second external devices are updated, by using at least one changed class parameter and at least one delay parameter.

14. The wireless communication method as claimed in claim 11, wherein, if the priority value of the first external device equals the maximum priority value, the first external device is determined to have an opportunity for transmission, and communications with the first external device is initiated.

15. The wireless communication method as claimed in claim 11, wherein, when initiating communications with the first external device, an

amount of data being transmitted to/from the first external device is detected,  
and a class parameter of the first external device is changed.

16. The wireless communication method as claimed in claim 11,  
wherein the first external device is updated by using a changed class  
parameter.